

ON MAMMALS FROM NEW GUINEA OBTAINED BY THE DUTCH SCIENTIFIC EXPEDITIONS OF RECENT YEARS

BY

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Thanks to the kindness of Dr. K. W. DAMMERMAN, of the Buitenzorg Zoological Museum, I have been privileged to work out the fine series of Papuan Mammals obtained on the various expeditions to Dutch New Guinea carried out for the benefit of that Museum, notably that under Dr. VAN HEURN in 1920 to the Mamberamo region of North New Guinea. To the specimens obtained by these expeditions Dr. DAMMERMAN has added a number of others which had been accumulated in the Buitenzorg Museum, the whole series therefore being of very considerable extent and interest. In all, of the Buitenzorg series, I have had through my hands 296 specimens, belonging to 41 species, of which I have had occasion to describe no less than 14 as new.

Although no new generic types have this time come to light, many of the new species are of considerable interest, such as the fine Kangaroo belonging to the genus *Dorcopsis*, which I have named after Dr. VAN HEURN, and the little Phalangers (*Pseudochirus*), one of which, the smallest of all, I have dedicated to Dr. DAMMERMAN. Preliminary notices of the new forms were published in the *Annals* for March ¹), the present paper containing fuller and more complete accounts of them.

In working out the collection, occasion has been found to study more closely the rodents formerly referred to *Uromys*, a group I have now divided into three. The fine Buitenzorg series has been of material service in doing this work.

Finally, when the paper on the Buitenzorg material was finished I was asked by Dr. DE BEAUFORT of Amsterdam if I would incorporate in it notes on some mammals obtained by Dr. G. VERSTEEG during the Dutch New Guinea Expedition of 1912—13 to the country south of the Nassau Range, under the leadership of Captain FRANSSEN HERDERSCHEE, and this additional material has resulted in the description of four further new species — notably two fine members of the genus *Pseudochirus*.

Thanks to the kindness and scientific spirit of Dr. DAMMERMAN, the whole of the types of the new forms of the Buitenzorg collection have been presented to the British Museum,

1) *Ann. Mag. N. H.* (9) IX., p. 261. March 1922.

he rightly thinking it unwise to preserve types in the tropical climate of Java, far away from European zoologists. And we have also been most kindly allowed to acquire by exchange the types included in the Versteeg collection.

These valuable collections form as a whole a fine memorial to the scientific enterprise of the Dutch authorities in the exploration of their great Papuan possessions.

In the following list, the species of the Buitenzorg series are numbered straight through from beginning to end, while those from the Versteeg collections are intercalated in square brackets. The specimens with ordinary numerals are skins and skulls, so numbered at Buitenzorg. Those with Roman figures are spirit specimens, to which these numbers were attached here. Species marked with a † are those now discovered for the first time, but already diagnosed in the paper quoted above.

The positions of the three localities chiefly occurring in the VAN HEURN collection are Pionier-bivak, 138 E. 2.20 S., Prauwen-bivak 138.30 E 3.15 S., and Doormanpad-bivak 138.30 E. 3.30 S.

1. *Pteropus papuanus*, Pet. & Dor.

In al. XIV and XV. Three specimens, and a head, Prauwen-bivak, Idenburg River, November 1920. W. C. VAN HEURN.

In al. foetus. VIII. Berkombor, Tor River. 23 October 1911.

In al. young. IX. S. New Guinea. HASSAN.

2. *Pteropus hypomelanus*, Temm.

In al. IV¹). No exact locality.

3. *Dobsonia magna*, Thos.

In al. N^o. 1. South New Guinea.

Forearm 151 mm.

4. *Cynopterus sphinx*, Vahl.

♂ in al. IV. Locality doubtful.

5. † *Nyctimene celaeno*, Thos.

♂ in al. II. Legare R., Geelvink Bay, N. W. New Guinea. Juni 1912. R. F. JANOWSKY.

A large species, related to *N. aello*, Thos.

Size large, rather smaller than in *aello*, about equal to the maximum found in *scirtula*²⁾ and *gemina*. General colour of back pale brown, less yellow than in *aello*, the hairs tipped with dull whitish. Head yellowish white. Throat, chest and middle area of belly dull buffy white, sides brown — not fulvous as in *aello*. Dorsal stripe extending from between the ears to the root of the tail, very broad (11—12 mm.) along the middle of the back, only exceeded in breadth by that of *aello*, strong and sharply defined, as in that species, and far broader and more conspicuous than in any other.

1) Among the stores in the Buitenzorg Museum one bottle marked IV was found containing three labels of different localities, so that it is impossible to determine where the specimens came from. I have however included the species in order to make this a full list of the Papuan Mammals in the Java Museum.

2) *Nyctimene* would appear to be a feminine word, based on *μήνη*, the moon.

Skull large, almost as long as in *gemina*, but more stoutly built, the interorbital and intertemporal breadths greater than in any other species. Nasal region not so deeply excavated as in *aello*.

Teeth rather lightly built. P³ with well marked internal cusp.

Dimensions of the type, measured on the spirit specimen before skinning:

Forearm 83 mm.

Head and body, 108; tail 24; lower leg and foot (c. u) 49; ear 18 × 10.5; third finger, metacarpal 55, 1st phalanx 31; 2nd phalanx, 36.5.

Skull, greatest length 36.5; condylo-basal length 35.4; zygomatic breadth 25; palation to incisive foramina 14.8; post-palatal length 14.8; orbit to nares 7.4; interorbital breadth 7.7; intertemporal breadth 7.5; breadth of brain-case 15.4; maxillary toothrow 13.2.

Hab. as above.

Type. Adult male, skinned out of spirit. B. M. N^o. 22. 2. 2. 2.

This fine species is readily distinguishable by its broad dorsal band from any but *N. aello*, than which it is smaller, and of a much browner and less yellowish or fulvous colour.

[*Nyctimene draconilla* sp. n.

♂ Bivak-island, Lorentz River, S. W. New Guinea. Collected 7 April 1912 by Dr. G. VERSTEEG, B. M. N^o. 22. 3. 22.. Type.

A very small species, slightly smaller even than *N. minuta*.

Size the least recorded in the genus — forearm 48.5 mm., general characters very much as in *N. minuta* of Celebes. Fur thinner, straighter and less woolly. Colour above more buffy, nearly „cinnamon” on fore back, duller and browner posteriorly. Head more dull whitish, differing from the colour of the back instead of quite like it. Shoulder patches strong buffy. Dorsal dark stripe just perceptible on the nape, its posterior half narrow and fairly well defined. Under surface strongly yellowish, the sides ochraceous buff in a male, the type of *minuta* being a female. Ears normal. Wing-membrane to the second toe.

Skull as in *minuta*. Teeth smaller throughout, even the canines (male) smaller than those of the female *minuta*. Cheek-teeth subequal in size; length of p⁴ only 1.4 mm. Cusps of p³ just perceptibly distinguishable. Dimensions of the type, measured on the skin:

Forearm 48.5 mm.

Head and body 77; tail 20; third finger, metacarpus 33; first phalanx 25; lower leg and hind foot 29.

Skull, lambda to gnathion (c) 25.2; condylo-basal length (c) 23.5; palation to incisive foramina 10; palation to basion 10.6; zygomatic breadth 16.4; breadth across crowns of m¹ 7.8; front of canine to back of m¹ 8.6; length of p⁴ 1.4, pf m¹ 1.6.

Hab. and *Type.* As above.

This is by far the smallest species found in New Guinea, and is even slightly smaller than the Celebes *N. minuta*, from which it also differs externally by its finer, less woolly hair, more buffy colour, and more distinct dorsal stripe, and in the skull by its smaller teeth.]

6. *Rhinolophus megaphyllus*, Grey.

3 in al. IV. Locality doubtful.

[*Hipposideros diadema*, Geoff.

♀ in al. Beaufort River.

♀ in al. Kloof-bivak.

7. *Hipposideros tricuspidatus*, Temm.

In al. XXII. Hollandia, N. New Guinea.

8. *Nyctophilus bifax*, Thos.

1 adult and 6 young in al. IV. Probably S. New Guinea. Coll. Hassan.

Quite like the Queensland *N. bifax*. Definite locality unfortunately lost.

9. *Pipistrellus papuanus*, Pet.

+ ♂, 11 ♀. Frederik Hendrik Island, S. New Guinea. March 1910.

♂. XXI. Hollandia, N. New Guinea.

♂. XXIV. N. New Guinea.

♀. Prauwen-bivak, Idenburg River. W. C. VAN HEURN. 28 Nov. 1920.

10. *Tylonycteris pachypus*, Temm.

In al. IV. No definite locality.

11. *Scoteinus greyi*, Gray.

1 ♂, 4 ♀. Frederik Hendrik Id., S. New Guinea. March 1910.

12. *Leuconoe adversus*, Horsf.

2 ♂, 1 ♀. In al. Frederik Hendrik Id., S. New Guinea. March. 1910.

These represent „*Vespertilio macropus*, Gould“, usually considered a synonym of *L. adversus*.

13. *Emballonura raffrayana*, Dobs.

2 in al. XVIII. XIX. Bivak Batoe, Doorman River. W. C. VAN HEURN.

14. *Emballonura papuana*, Thos.

♂ in al. Pionier-bivak, Mamberamo River. W. C. VAN HEURN.

Rattus.

Mr. VAN HEURN's collection contains a considerable number of examples referable to the genus *Rattus*, but curiously enough all belong to one group, of which *R. mordax* is the Papuan representative, with semi-spinous fur, unicolor tail and $2-2=8$ mammae. On the other hand those of the Versteeg collection are all referable to *R. ringens*, which has a white-tipped tail and $1-2=6$ mammae. Nor are there any of the small species of the *ephippium* group, whose representatives in the New Guinea area are *R. browni* and *R. gestri*.

Three forms would appear to occur in the Mamberamo area, one so like *mordax* that I would only distinguish it as a subspecies, then one considerably larger, and again a third still larger. All agree in their general proportions, and approximately in their colour, but

with the variation in size usual in the genus, some difficulty has been found in determining every specimen.

15. † *Rattus mordax tramitius*, Thos.

♂. 103, 116, 120, 142, 162. ♀. 60, 71, 86, 115, 133, 150, 157, 167, 170, Doormanpad-bivak.
W. C. VAN HEURN.

General characters about as in true *mordax*, but the colour without the strong rufous or fulvous suffusion that generally occurs in *mordax* on both upper and lower surfaces. The back blackish grey, very finely ticked with buffy, the ticking and grizzling distinctly finer than in *mordax*. Undersurface pale slaty grey, washed with clay colour, a white patch often present on the chest.

Skull as in *mordax*.

Dimensions of the type, measured in flesh:

Head and body 175 mm.; tail 170; hindfoot 35.5.

Skull, greatest length 41.5; condylo-incisive length 38; zygomatic breadth 20; inter-orbital breadth 6.2; palatal foramina 7.4; upper molar series 7.

Hab. as above; Type from Doormanpad-bivak.

Type. Adult female. B. M. N°. 22. 2. 13, Original number 86. Collected 15 October 1920 by W. C. VAN HEURN.

The specimens collected on the south side of the Nassau range by the British Expeditions appear also to belong to this less rufous form.

16. † *Rattus coenorum*, Thos.

♂. 26, 27, ♀. 19, 20, 23, 24, Pionier-bivak, Mamberamo River, W. C. VAN HEURN.

♂. 44, 48, 224, 225. ♀. 46, 47. Prauwen-bivak, Idenburg River, W. C. VAN HEURN.

♀. 197. Doorman-rivier. W. C. VAN HEURN.

A thickly built, heavy-footed form related to *R. mordax*, but larger. Fur largely consisting of slender spines. General colour dark fuscous, the spines with grey bases and black ends, the hairs between them with glistening buffy tips, unusually bright and glossy; but in old specimens the fur becomes a draggled muddy colour. Under surface dull whitish, the spinous hairs wholly whitish, the ordinary hairs pale slaty. Fingers whitish, metacarpals more or less brown. Hind feet greyish white, the terminal part of the metatarsus commonly brown. Tail coarsely scaled, almost naked, blackish brown.

Skull essentially similar to that of *mordax*, but larger and more robust. Mammae 2—2 = 8.

Dimensions of the type, measured in flesh:

Head and body 207 mm.; tail 230; hindfoot 44.

Skull of type and of a very old male, inserted for comparison with that of the next species, greatest length 47, 47.6; condylo-incisive length 44.3, 46; zygomatic breadth 22.7, 24.4; nasals 16.6, 19.4; interorbital breadth 6.5, 6.5; breadth between ridges on brain-case 15.7, 15; zygomatic plate 5, 5; palatilar length 22, 2; palatal foramina 8.8, 8; upper molar series 8.3, 7.8.

Hab. as above. Type from Pionier-bivak, Mamberamo River.

Type. Adult male. B. M. N°. 22. 2. 19. Original number 26. Collected 18 Dec. 1920.

17. † *Rattus bandiculus*, Thos.

♂ 25. Pionier-bivak, Mamberamo River. W. C. VAN HEURN, 18 Dec. 1920. B. M. N^o. 22. 2. 2. 22. *Type*.

A still larger and heavier form of the same group as the preceding.

External characters as in *coenorum*, the colour of the single old specimen being as in old examples of that animal. Feet thick and clumsy.

Skull conspicuously larger in all dimensions than that of *coenorum*. Nasals long, broad in front, narrowed in their posterior two-thirds. Cranial ridges strong. Palatal foramina large and open, reaching back to the level of the front of m¹.

Dimensions of the type, measured in flesh:

Head and body 252 mm.; tail 220; hindfoot 49 mm.

Skull, greatest length 54; condylo-incisive length 52.6; zygomatic breadth 27.5; nasals 20; interorbital breadth 7; breadth across ridges on braincase 16.2; zygomatic plate 6.3; palatilar length 27.6; palatal foramina 10.6 × 4.8; upper molar series 9.1.

Hab. and *type* as above.

This large rat, of which unfortunately only one specimen was obtained, seems, unless it proves to have a different mammary formula, to be only distinguishable from the last by its much greater size, especially by its very large skull, which Mr. VAN HEURN thought to be that of a Bandicoot. Comparison between its cranial dimensions, and those of the second specimen of *coenorum*, equally aged, measured above, will show how great is the difference between the two, so that it is impossible to consider them to belong to the same species.

[*Rattus ringens*, Pet.]

9 in al. Kloof-bivak, Lorentz River. Dr. VERSTEEG.]

18. † *Stenomys arrogans*, Thos.

♂. 189. ♀ 184, 185, 194, 196. Doormanpad-bivak, 2400 m. W. C. VAN HEURN.

A medium sized species with a much swollen braincase.

Size less than in *verecundus*, slightly greater than in *klossi*. Fur long, soft, hairs of back about 12 mm. in length. General colour as usual very dark — dark bistre brown faintly ticked with buffy, about as in *S. klossi* and *niobe*; the under surface also brown. Fingers lighter brown: metacarpals, whole of hind foot and tail dark brown. Mammae 1—2 = 6.

Skull with normal narrow muzzle but much broadened and peculiarly swollen braincase, the swelling commencing in the interorbital region and increasing in the much inflated cranial portion. Palatal foramina narrow, fairly long, ending in front of m¹. Bullae about as in *S. klossi*.

Dimensions of the type, measured in flesh:

Head and body 120 mm.; tail 125; hindfoot 25.5.

Skull, greatest length 34; condylo-incisive length 30.6; zygomatic breadth 17; nasals 12.5; interorbital breadth 6.6; breadth of braincase 15.5; palatilar length 14.4; palatal foramina 5; post-foraminal palate 7.3; upper molar series 6.

Hab. as above.

Type. Adult female. B. M. N^o. 22. 2. 2. 24. Original number 196. Collected 31 Oct. 1920.

This species is apparently most nearly related to *S. klossi*, from the high country to the south of the Nassau range, but is distinguished from that, as from practically all other Muridae, by its peculiarly rounded and swollen brain-case.

Mr. VAN HEURN found this *Stenomys* in thick mossy undergrowth at comparatively high altitudes; just as was the case with *S. klossi*.

19. † *Melomys rattoides*, Thos.

♂. 21, 22, 220 (young). Pionier-bivak, Mamberamo River. W. C. VAN HEURN.

♀. 42. Skull without skin. Same locality.

A large species with close glossy fur.

Size large compared with the various species now put in *Melomys*, these being what used to be the smaller species of *Uromys*, the hind foot but little shorter than in *M. porculus*, the largest known species; the build, however, far more slender than in that animal. Fur straight, glossy, not woolly, hairs of back about 12 mm. in length. General colour above rufous brown (approaching „Verona brown”), the sides rufous greyish. Underside strongly contrasted white, the hairs with slaty bases. Head grey, crown more rufous; a black patch on the side of the muzzle, extending back as a ring around the eye, which contrasts with the grey forehead and whitish cheeks. Ears practically naked, greyish brown. Arms and legs with an outer greyish brown line down them becoming a darker patch on the wrists and ankles; inner sides white to the bases of the hairs; the upper surface of the hands and feet also white. Tail about equal to the body without the head, with strongly marked rings of scales about 8 or 9 to the centimeter; grey-brown above, white below and at the extreme tip.

Skull slender, with a long muzzle; supraorbital edges square, not ridged; palation fully level with the front of m³.

Dimensions of the type, measured in flesh:

Head and body 210 mm.; tail 160; hindfoot 41; ear 22.

Skull, greatest length 48.5; condylo-incisive length 42.5; zygomatic breadth 22; nasals 17.2; interorbital breadth 7.4; breadth of braincase 18.3; palatilar length 20; palatal foramina 6; upper molar series 8.2.

Hab. Mamberamo Riv., N. New Guinea. Type from Pionier-bivak.

Type. Adult male. B. M. N^o. 21. 2. 2. 25. Original number 22. Collected 3 August 1920 by Mr. W. C. VAN HEURN.

A very distinct species by its large size and glossy fur.

20. † *Melomys lanosus*, Thos.

♀ 190 (old). Doormanpad, N. W. New Guinea, 2400 m. 30 October 1920. W. C. VAN HEURN, B. M. N^o. 22. 2. 2. 26. *Type.*

A fine soft-haired species rather smaller than *M. rattoides*.

Size decidedly less than in *rattoides*, but still larger than in the majority of the species. Fur very soft and fine, hairs of back about 14—15 mm. in length. General colour above greyish with a suffusion of rufous or buffy; sides greyer, undersurface dull white, the bases of the hairs slaty. Head with something of the markings of *rattoides*, that is to say, with a

greyish forehead, the grey running further back on to the crown, blackish eye-rings and greyish cheeks, but the latter are a darker and more slaty grey, this colour running round on to the throat; chin white. Ears small, a blackish patch behind their backs. Hands white. Feet white, but the body colour running down to the ankles. Tail rather short, coarsely ringed (7 scales to the cm.), slaty grey above and white below.

Skull shorter and more rounded than in *rattoides*. Muzzle broader. Supraorbital edges slightly ridged, and with a faint indication of protorbital processes. Zygomatic plate rather narrow, its front edge slanted. Palatal foramina fairly long for the group.

Dimensions of the type, measured on skin:

Head and body 175 mm.; tail 143; hindfoot 36.5.

Skull, greatest length 42; condylo-incisive length 38; zygomatic breadth 19; nasals 15.5; interorbital breadth 7.6; breadth of braincase 17.3; zygomatic plate 3.6; palatilar length 18.2; palatal foramina 6.2; upper molar series (worn) 7.8.

Hab. and *Type* as above.

This species is readily distinguishable from the ordinary species of *Melomys* by its long greyish hair, its comparatively large size, and its smoothly rounded skull.

21. *Melomys stalkerii*, Thos.

♂. 49, 51, 223. ♀. 50, 52. Prauwen-bivak, Idenburg Riv. W. C. VAN HEURN.

♂. 32, 41, 222. ♀. 33, 36, 37, 39. Pionier-bivak, Mamberamo River, W. C. VAN HEURN.

♀ in al. VII. North New Guinea.

♂ in al. XVI. K. Augusta River.

These specimens probably represent Jentink's *sexplicatus*, which was described from the Sentani Lake, Humboldt Bay, but I doubt if they have any valid difference from the original *stalkerii* of Eastern British Papua.

[10 in al. Kloof-bivak and other localities on the Noord River. Dr. VERSTEEG.]

22. *Melomys platyops*, Thos.

♂ 28, 29, 30, 31, 34, 35, 38, 40, 219. Pionier-bivak, Mamberamo River. W. C. VAN HEURN.

♂ 53, 55, 56, 57, 48, and XII, young in al. Prauwen-bivak, Idenburg River. W. C. VAN HEURN.

Found originally in British Papua, and since obtained on the Utakwa River, Dutch New Guinea, by the Wollaston Expedition. Varies in the degree of whiteness of the under-side of the tail, some specimens having this organ hardly lighter below than above, while in others it is sharply bicolor.

23. † *Melomys rubex*, Thos.

140 specimens. Doormanpad-bivak, 1410 m. W. C. VAN HEURN.

A small species of a warm rufous colour, especially posteriorly.

Size comparatively small, form slender. Fur soft and fine, hairs on back about 10 mm. in length. General colour above dark reddish brown, becoming richer rufous („auburn”) posteriorly. Undersurface washed with dull grey varying to greyish rufous, without the sharp line of demarcation, the hairs all broadly slaty basally; a small patch on throat more permanently whitish. Head dark greyish brown, with prominent face markings. Ears short,

practically naked, dark grey. Hands dark on wrists, whitish terminally. Feet slender, pale brown with light digits. Tail rather shorter than head and body, slender, faintly scaled, the rings about 14 to the cm.; dark brown, not or little lighter below.

Skull lightly built, smooth, with scarcely any ridges or crests, the supraorbital edges smooth, square, but not beaded; muzzle long; upper profile straight or even slightly concave.

Dimensions of the type, measured on the skin:

Head and body 132 mm.; tail 130; hindfoot 29.

Skull, greatest length 34.2; condylo-incisive length 31; zygomatic breadth 17; nasals 13.5; interorbital breadth 5.8; breadth of braincase 14; palatilar length 15.5; palatal foramina 5; upper molar series 6.4.

Hab. as above.

Type. Adult male. B. M. N^o. 22. 2. 2. 44. Original number 90. Collected 16 October 1920 by W. C. VAN HEURN.

While this species appears to have been extremely common around the Doormanpad bivouac no other specimens are contained in the collection, nor am I able to identify it in any other of the species described from New Guinea. Its small size, smooth slender skull, and rufous colour readily distinguish it from the other species obtained.

The three small species collected by Mr. VAN HEURN may be distinguished from each other by the colour of their lower surfaces, *M. stalkeri* with a certain amount of hairs white to their roots, *M. platyops* with its clear grey belly, and *M. rubex* with a more or less rufous washed one.

24. † *Hydromys esox illuteus*, Thos.

♂ 45. Prauwenbivak, Idenburg River, 18 September 1920, W. C. VAN HEURN. *Type* B. M. N^o. 22. 2. 2. 61.

[2 ♂ in al. Kloof-bivak, Noord River. Dr. VERSTEEG.]

A greyer and less fulvous-suffused form of *H. esox*.

Size and essential characters as in *esox*. General colour above lined blackish-grey, without the fulvous or drabby suffusion so marked in *esox*. Lower colour not rising so high on the flanks. Undersurface greyish, with slaty bases to the hairs; longer hairs pale buffy, but the whole has nothing like the strong fulvous or buffy colour so marked in the type of *esox*. Wool hairs of back mostly dark slaty for three fourths their length, with black ends, but on the rump they are darker, brownish slaty. In *esox* their basal three fourths is light grey — „light gull grey”. Hands with whitish fingers, but the metapodals are more or less brown, the corresponding colour in *esox* not going beyond the waist. Hind foot mostly white, but blackish on the proximal part of the metatarsus, and along its outer side (inner in the prepared skin) to the minimus. Tail with its short haired portion about half white and half black.

Skull about as in *esox*.

Dimensions of the type, measured in flesh:

Head and body 260 mm.; tail 215; hindfoot 50.5; ear 17.

Skull, condylo-basal length 48.5; condylo-incisive length 47; zygomatic breadth 23.7; intertemporal breadth 7; breadth of braincase 19; palatilar length 22.5; palatal foramina 5.5 × 3.6; upper molar series 8.2.

Hab. and *Type* as above.

This Water-Rat differs from that of Port Moresby by its greyer and less fulvous colour, and may be considered as a western subspecies of it.

The spirit specimens from Noord River appear to be of quite the same colour as that from the Idenburg.

Our one topotype of *H. beccarii* from the Key Island has the belly hairs light to the base, but I am not at present able to express a definite opinion as to the relationship between that animal and its New Guinea ally.

25. *Sus papuensis*, Less. & Garn.

♀ 1. Skull only. Pionier-bivak, Mamberamo River. W. C. VAN HEURN.

♀ 2. Skull only. Prauwen-bivak, Idenburg River. W. C. VAN HEURN,

26. † *Dorcopsis hageni caurina*, Thos.

♂ 218. Pionier-bivak, Mamberamo River. 6 January 1921. W. C. VAN HEURN, B. M. N^o. 22. 2. 2.
64. *Type*.

Closely allied to the typical *hageni* of Astrolabe Bay, but the general colour is rather brown than grey („light seal-brown”), the sides are as dark as the back, and the dorsal whitish line extends up on to the crown, to the hair-crest just in front of the ears. The anterior half of this characteristic light line is narrow, about 2 mm. in breadth, while its posterior half is decidedly broader, about 7 mm. Tail dark brown above, lighter brown below. Other characters apparently as described in *hageni*.

Dimensions of the type, measured by Mr. VAN HEURN in the flesh.

Head and body 640 mm.¹⁾; tail 440; hindfoot 143; ear 54.

Skull, greatest length 144; basal length 129; zygomatic breadth 59.5; upper cheek-teeth 43.2; p⁴ 15.5.

Hab. and *Type* as above.

D. hageni is a fine and remarkable species, which had not previously come to the British Museum. The present is a great extension westwards of its known range, and the distance from its type locality, Astrolabe Bay — about 600 miles — is such that the differences above noted no doubt indicate subspecific distinction.

Dr. VAN HEURN makes the following note on this Kangaroo:

„Rarely seen. This individual was surprised on the river-bank and was shot by a Dyak before it was able to clamber up the steep wall of bush behind it.”

[*Dorcopsis lorentzi*, Jent.

♂. ♀. Kloof-bivak, Lorentz River. Dr. G. VERSTEEG.

2. ♂ No exact locality.

The two last specimens are of a paler brown than usual, and are marked as „colour-varieties”, but I am disposed to consider that they have been bleached, and are not inherently different.]

1) Measured on the dry skin, the head and body are 540 mm. in length, the tail 380, and the ear 44.

27. † *Dorcopsis vanheurni*, Thos.

11, and its young, 13; 16, and its young, 14. Doormanpad-bivak 1410 m. 20 and 26 October 1910. W. C. VAN HEURN.

Allied to *D. macleayi*, but smaller and with softer fur.

Size, judging by skull, slightly less than in *macleayi*. Fur exceedingly soft and silky; much longer than in *macleayi*, hairs of hinder back about 26—27 mm. in length, of nape 19—20. Above, the hairs are directed forwards from the withers to the crown, and below there is an indication of hair-whorls on each side of the inguinal region. General colour above dark grey-brown, about as in *macleayi*, but appearing glossier, from the fineness of the fur. Below smoky brown, the throat dull blackish. Hands and feet uniformly dark brown above. Tail with the terminal two fifths naked, the furry basal part brown above, greyer below, with, as in *macleayi*, a small reddish brown patch on it about three inches from the anus, probably of glandular origin. Skull of slightly more delicate build than in *macleayi*, but essentially similar. Teeth smaller than in *macleayi* throughout, the large secator narrower.

Dimensions of the type, measured in the flesh:

Head and body 390 mm.; tail 300; hindfoot (dry) 100; ear 35.

Skull, greatest length 82; basal length 73; zygomatic breadth 42; nasals 33×12 ; interorbital breadth 16; front of secator to back of last molar 27.2; secator 9.2; three anterior molariform teeth 13.2.

Hab. North-west New Guinea in region of Mamberamo River; type from Doormanpad 1410 m.

Type. Adult female. B. M. N^o. 22. 2. 2. 65. Original number 16. Collected 26 October 1920 by W. C. VAN HEURN.

This distinct species is alone related to the little *D. macleayi* of S. E. New Guinea, from which it is readily distinguished by its finer fur and smaller teeth. I have named it in honour of Mr. W. C. VAN HEURN, who made the valuable collection of mammals from the Mamberamo River which forms the main basis of the present paper.

„Caught in snares in thick mossy jungle. Each had a young one with it. The flesh tasted excellent.” W. C. VAN HEURN.

28. *Distaechurus pennatus*, Pet.

♂ 85. North New Guinea.

Very much discoloured by bleaching.

29. *Petaurus breviceps papuanus*, Thos.

90. Bosnik, Schouten Island, N. W. New Guinea.

2 in al. (X. XI). South New Guinea. HASSAN.

30. *Dactylopsila trivirgata*, Gray.

♂ 15. Between the Doorman River and Doormanpad-bivak, 26 October 1920, W. C. v. HEURN.

Tail with an unusual amount of whitish down its sides, more as in many specimens of *melampus*.

31. *Dactylopsila melampus*, Thos.

87. Young. Humboldt Bay. Dr. GJELLERUP.

On laying out the whole series of this genus available, amounting to 24 specimens from various localities, I regret that it seems impossible to sort them locally by the details of their markings. Specimens from identical places differ widely, and the use of such characters as are given in Dr. MATSCHIE's paper on them¹⁾ proves to be entirely fallacious. I am indeed quite doubtful now whether even *D. melampus* should be specifically distinguished from *trivirgata*, while I am sure that several of the other species, based for the most part on single specimens, that have been established by MATSCHIE, are merely individual variations, their colour characters breaking down when larger series are examined.

For instance our two Arfak specimens do not agree with MATSCHIE's „*arfakensis*”, while they do with a Sorong skin topotypical of „*albertisi*” and also with the original *trivirgata* of the Aru Islands. Our two skins of *D. hindenburgi* again do agree with the description in the possession of a very bushy dark-coloured tail, but in their detailed markings they are different in various respects both from each other and from the original type. And finally one of the original Katau specimens obtained by D'ALBERTIS is quite without the white wrist and ankle markings stated by MATSCHIE to distinguish his „*katau*”, which was based on another of the self-same set. However, for the present the black-footed forms may provisionally be kept distinct from the white-footed.

Throughout mammals the detailed distribution of contrasted markings of lines and spots is always liable to be deceptive, when it does not affect the general coloration of the animal. The latter is usually a natural result of the environment, and therefore suitable for systematic use, while the former is often purely individual, and should be used with very great caution, and only after the examination of considerable series of specimens. The spots and stripes of Cats, Genets, Lycaon and other mammals have thus often caused the foundation of many perfectly illusory species when they have been treated as exact systematic characteristics.

[*Pseudochirus beauforti*, sp. n.

♂. Lorentz River. Dr. G. VERSTEEG. Type.

A coppery species like *P. cupreus*, but smaller.

Intermediate in size between *P. cupreus* and *albertisi*, smaller than the former, larger than the latter. External characters almost precisely as in the former, whose description²⁾ is almost entirely applicable to the present animal, except that the belly is a „pale pinkish-cinnamon” and there are no white inguinal patches. Scrotum white; brown in the type of *cupreus*. Hands and feet becoming black on the digits. Tail similarly black and short-haired distally, this character distinguishing both species from the more bushy-tailed *albertisi*.

Skull essentially quite as in *cupreus*, apart from its smaller size, with similarly compressed interorbital region. Supraorbital ridges well defined, but not so absolutely on the edge of the interorbital space, so that there is a slight convexity below and outside them. Teeth

1) Mitth. Zool. Mus. Berlin, VIII, p. 305. 1916.

2) Ann. Mus. Genov. (2) XVIII, p. 145. 1897.

Dimensions of the type, measured in the flesh :

Head and body 315 mm.; tail 295.

Skull, condylo-basal length 61; upper length 58.5; zygomatic breadth 34.3; nasals 21×8.8 ; intertemporal breadth 6.8; breadth across bullae 30; palatilar length 32.5; dental length 31.5; combined length of three anterior molariform teeth 11.

Hab. and *Type* as above.

This *Pseudochirus* is no doubt nearly allied to *caroli*, which is a native of the Weyland Mountains, to the north of the Nassau Range. But its differently shaped nasals, the shorter extent of the naked part of the tail, and its detailed differences in colour would seem to indicate specific distinction.

With the concurrence of Dr. DE BEAUFORT I have named it in honour of its captor, Dr. VERSTEEG, who did most of the collecting on the Dutch Expedition of 1912.

33. *Pseudochirus canescens*, Waterh.

♂ (young) N°. 88. Amos bay, North New Guinea Coll. Sain.

Too young for the determination to be quite satisfactory.

34. † *Pseudochirus dammermani*. Thos.

N°. 89. Immature. Dutch North New Guinea. 1912.

A very small species allied to *P. schlegeli*.

Size, as judged by the teeth, decidedly less than in *P. forbesi*, therefore still less when compared with *schlegeli*. Fur long, soft and woolly, hairs of the back in a young specimen about 20 mm. in length, without including the longer piles, which overtop the others by about 8 mm. General colour above dull fulvous grey, the head slightly paler. Undersurface whitish, with a faint buffy or fulvous tinge, the hairs slaty for three fourths their length. No trace of a median dorsal line in the head. Eyes with a slightly darker area below them, and another between them and the ears. Ears small, thickly clothed behind with soft hairs of a fulvous or pale rufous colour; below and behind the ears, from their bases to the middle of their hinder edge, a prominent white patch. Forearms washed with pale rufous. Hands white, slightly tinged with fulvous; feet quite white. Tail at base of the same buffy grey colour as the back, becoming rather more drabby on its middle third, and tending to brown on its terminal, shorthaired, third; centre of underside drabby at base, then more brownish, the terminal two fifths naked.

Skull and teeth of the usual structure in the group, the molars decidedly smaller than in *forbesi*. Bullae well swollen.

Dimensions of the type, a young specimen, measured on the skin:

Head and body 152 mm.; tail 173, its naked part below 75; hindfoot 22.

Skull, greatest length 38; combined length of first two molariform teeth 6.

Hab. as above.

Type a young skin, with its skull. B. M. N°. 22. 2. 2. 69. Original number 89. Collected 1912.

This species is apparently most nearly allied to *P. schlegeli*, Jentink, but differs by its pale-coloured, not blackish, ears, the absence of a median dorsal line, the white instead

of blackish fingers, and by the considerable length of the naked area below the tail-tip. The molars would also seem to be considerable smaller, but owing to its youth, no other cranial measurements are available for comparison.

I have named this very pretty little phalanger in honour of Dr. DAMMERMAN, to whose kindness I owe the opportunity of working out this most interesting collection.

35. *Phalanger maculatus*, Geoff.

- ♂ 91. New Guinea.
 ♀ 5. Pionier-bivak, Mamberamo River, 8 Aug., 1920. W. C. VAN HEURN.
 ♀ 93. South New Guinea.
 [4 ♂. Kloof-bivak (3) and one without exact locality.
 1 ♀, young. Bivak Island, Lorentz River.]

36. *Phalanger orientalis*, Pall.

- ♀. Skull, N°. 3, and two foetus in al. Pionier-bivak, Mamberamo River, 1920. W. C. VAN HEURN.
 ♂ 9. Prauwen-bivak, Idenburg River, 21 Nov., 1920. W. C. VAN HEURN.

37. *Isodon moresbyensis*, Rams.

- ♂. (yg.) in al. VI. South New Guinea. Coll. HASSAN.

38. *Echymipera doreyana*, Quoy & Gaim.

- ♂ 92. Beeuw, Tor River, N. New Guinea. K. GJELLERUP. 10 Oct. 1911.
 ♂ 7. ♀ 8. Prauwen-bivak, Idenburg River. 12—16 Sept., 1920. W. C. VAN HEURN.
 ♂ in al. XIII. Hollandia, Humboldt Bay, N. New Guinea. July 1910. VAN KOCK.
 ♀ young, in al. V. Asj Res., N. New Guinea.
 young (stuffed) 86. New Guinea.

It must be admitted that in length of skull these Bandicoots do more or less fill up the gap between *doreyana* and the large form which I named *gargantua*, their condylo-basal lengths being, in the order of the specimens above, 73.5, 75.3, 77.2 and 78.3. 8 and XIII are old, with much worn teeth, but in 92 and 7 these are but little worn, and it is certain that it is not always the specimens with the most-worn teeth, presumably the oldest, which have the longest skulls.

However, if a very unusual range of variation in size be granted, it does seem possible that the long-skulled examples to which I attached the name of *gargantua* are really only overgrown individuals of *doreyana*.

39. † *Peroryctes dorsalis*, Thos.

- ♀ 12. Doormanpad-bivak, Mamberamo basin, 1410 m. W. C. VAN HEURN. 23 October 1920.
 Type. B. M. N°. 22. 2. 2. 74.

Very similar to *P. ornatus*, but with less-developed striping and almost completely naked tail.

Size and general appearance very much as in *ornatus*. General colour similarly brown, slightly lighter in tone. Undersurface whitish-brown, the hairs brownish at their bases instead of being wholly whitish as in *ornatus*; chest slightly darker than throat, instead of being lighter. Dorsal stripe similarly running from muzzle to rump, but posteriorly not so sharply defined

on the face, the definite light lines on each side of it being replaced by ill-defined lighter areas. A blackish ring round eyes and another round base of ears, but the two not united to form a definite dark line from muzzle to ear. Posteriorly again the dorsal line is narrow and indistinct, owing to the absence on each side of it of the bounding light lines, and outer secondary black lines, the latter being just vaguely perceptible. Back of ears almost naked. Hands and feet whitish or pale whitish brown, decidedly paler than in *ornatus*. Tail with the short-haired part almost completely naked above, a few minute hairs rarely two scales long, while in *ornatus* this part is clothed with fairly numerous hairs about 4 scales long, practically hiding the skin; its colour grey for three fourths its length, the tip white.

Skull and teeth very similar to those of *ornatus*, except that there are no anterior vacuities on the palate opposite the anterior premolars, and the incisors are broader and more spatulate, but either character may be purely individual.

Dimensions of the type:

Head and body 270 mm.; tail 185; hindfoot 54; ear 23.

Skull, greatest length 63; condylo-basal length 61; zygomatic breadth 22.5; nasals 25; interorbital breadth 13.5; dental length 35; combined length of three anterior molariform teeth 10.

Hab. and *Type* as above.

This interesting Bandicoot alone resembles in its striping and general characters *P. ornatus* of the far distant Aroa River, British New Guinea, but differs from that by the practically complete nakedness of the upper side of the tail, and the lesser development and vividness of the black dorsal stripe, which is here not shown up by lighter bands on each side of it on face and rump.

In its essential characters of skull and proportions the species resembles *P. longicaudata* of the Arfak, but Dr. O. DE BEAUX has been good enough to re-examine the type of that animal in the Genoa Museum, and confirms for me the statement that it has no trace of a darker dorsal band.

40. *Dasyurus albopunctatus*, Schl.

♂. N°. 4. Pionier-bivak, Mamberamo River. 7 July 1920. W. C. VAN HEURN.

♀. N°. 10. Doormanpad-bivak, 1410 m. 5 October 1920. W. C. VAN HEURN.

Coming almost from the same place, these two specimens differ somewhat, the male darker, less rufous, and with larger bullae than the female.

[*Phascogale lorentzi*, Jent.

♂ ♀ in al. Dromedaris, Lorentz [Noord River]. Dr. VERSTEEG.

5 ♂. 2 ♀. in al. Bijenkorf, Lorentz River. Dr. VERSTEEG.

♀ in al. Treub-bivak, Noord River. Dr. VERSTEEG.

Native name „Gnambot”. G. V.

This fine series is of much interest and value, for hitherto only one specimen, the type, has been known, and owing to its blackish colour that has been supposed to be a melano. It would now appear, from the constancy of this series, and the fact that the animal

is by no means wholly black, that the coloration of the type is quite normal, and that *P. lorentzi* should be accepted as a black-backed species with grizzled greyish sides and belly. There are four mammae in the female, as in *P. dorsalis* and its allies.

As a result, it seems that the fine rufous Goliath Mountain form, which in 1912¹⁾ I described as showing the normal coloration of *P. lorentzi*, is really quite a different species, recognisable by its white-speckled red coloration. Later on²⁾, supposing that to be the true *lorentzi*, I gave, in 1921, to a subspecies of it, from the Weyland Mountains, the name of *P. lorentzi venusta*, the latter name being therefore now applicable, as a species-name, to the red animal of both Goliath and Weyland Mountains.

And of the two forms of *P. venusta*, that from Mount Goliath now requires a new subspecific name, and may be called *P. venusta rubrata*. The differences from the true *venusta* are explained in the description of the latter.

The following recapitulation of the characters and names will perhaps make clearer this somewhat complicated matter

Size comparatively large. Mammae 4. Tail-tip white.

a. Back black, sides and belly grizzled with grey. Noord River. 1. *P. lorentzi*, Jent.

b. Whole of upper surface rich reddish, grizzled with white. 2. *P. venusta*, Thos.

*a*². Undersurface dull brownish rufous, inner sides of limbs greyish. Weyland Mountains. 2a. *P. venusta venusta*.

*b*². Undersurface richer rufous, the inner sides of fore and hind limbs rich ochraceous cinnamon. Mt. Goliath 2b. *P. venusta rubrata*, subsp. n.

The type of *P. venusta rubrata* would be: Old Male. B. M. N^o. 11. 11. 29. 10. Original number 8. Collected in January 1911 by A. S. MEEK. Three specimens examined.]

41. † *Sminthopsis rufigenis*, Thos.

♀ and 2 young in al. XX. Aru Islands.

A fairly large species with red cheeks, as in the much larger *S. virginiae*.

Size decidedly less than in *virginiae*, about equalling the larger forms amongst the other species. Build rather stout and thickset. General colour dark lined greyish-brown; under-surface grey with the hairs slaty at base, greyish-white terminally. Muzzle with a dark median line, gradually disappearing on the crown. Cheeks from below eyes to base of ears bright rufous. Ears themselves thinly haired, the lower part of the proectote and mesentote rufous. A large metatragus present, 3.0 mm. × 3.0. Upper surface of hands and feet buffy brown. Soles hairy under the calcaneum, the remainder naked, very slightly granulated, the four pads arranged as in *S. murina*, the distal ones very finely and indistinctly striated. Tail rather longer than head and body, slender, not incrassated, evenly short-haired, brown above and below. Mammae 6.

Skull of normal shape, the nasals not expanded posteriorly. Premolars above evenly increasing in size backwards; below *p*₄ is not larger than *p*₃.

Dimensions of the type, measured on the spirit specimen:

1) Ann. Mag. N. H. (8) IX. p. 91. 1912.

2) Op. cit. (9) VIII, p. 358, 1921.

Head and body 91 mm.; tail 102; hindfoot 21.3; ear. 16.

Skull, greatest length 26.5; basal length 23.7; zygomatic breadth 14.7; interorbital breadth 4.5; maxillary tooth-row 10; three anterior molariform teeth 5.1.

Hab. Aru Islands.

Type. Adult female in spirit. B. M. N°. 22. 2. 2. 76. Original number XX.

The genus to which this animal belongs has not been hitherto recorded from the Aru Islands, but there is no special reason it should not occur there, as in Australia it ranges quite to the north, both in Queensland and in the Northern Territory. As a species *S. rufigenis* is very distinct, its red cheeks separating it at once from all other forms except *S. virginia*, which is a far larger animal.
